

IN THE SPECIFICATION

**Please replace the paragraph beginning at page 4, line 26, with the following rewritten paragraph:**

Binary metal oxide layer 14 is preferably formed of an alkaline earth metal oxide (of the general form  $A_mO_n$ , where A is an alkaline earth metal) and is selected for its crystalline compatibility with the underlying substrate and with the overlying monocrystalline material layer. Materials that are suitable for the binary metal oxide layer include, but are not limited to, barium oxide (BaO), strontium oxide (SrO), magnesium oxide (MgO), calcium oxide (CaO), zirconium oxide ( $ZrO_2$ ), cerium oxide ( $CeO_{sub.2}$ ), praseodymium oxide ( $PrO_2$ ) and yttria-stabilized zirconia (YSZ). Preferably, binary metal oxide layer 14 is formed of BaO or a mixture of BaO and SrO. Alternatively, the binary metal oxide layer 14 may comprise an oxide of a blend of any alkaline earth metal oxides (of the general form  $A_xB_yO_z$ , where A and B are alkaline earth metals), such as (Ba,Sr)O. Binary metal oxide layer 14 may have a thickness in the range of from about 2 to 100 nm. Because of its crystalline structure, binary metal oxide layer 14 may form a relatively flat surface when epitaxially grown on substrate 12 as compared to perovskite materials and, accordingly, does not present the step height mismatch problems that perovskite materials present. In addition, rotation of the orientation of binary metal oxide layer 14 on substrate 12 is not required to achieve substantial matching of the crystal lattice constants of layer 14 and substrate 12, as is required for perovskite deposition on substrate 12. Binary metal oxide layer 14 may also provide an advantage for FET applications, as it is a better insulator than a perovskite oxide layer. In addition, binary metal oxide layer 14 may serve as a better diffusion barrier than a perovskite oxide layer. The binary metal oxide layer may be formed of a binary oxide material having a rock-salt crystalline structure.